

Applicant : Wolf Bertling et al
Serial No. :
Filed :
Page : 5

Attorney's Docket No. 0848-021US1 / 422073GA-go

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Information on Cross-Related applications has been added to the specification after the title.

The paragraph on page 2, lines 13-15 has been deleted.

In the Claims:

Claims 1-4 and 7-13 have been amended as follows:

1. (Amended) A method for detecting and quantifying first biopolymers (1) that are located in a liquid, where second biopolymers (2) which have a specific affinity to the first biopolymers (1) to be detected are bonded to the surface of a first electrode (E1), and where the first and at least one second electrode (E2) are in contact with the liquid, said method having the following steps:

contacting the liquid with the first electrode (E1),

[a] application of] applying a voltage and/or current across the first electrode (E1) and the second electrode (E2), and

[b] measurement of] measuring a direct change in the voltage and/or current caused by addition of the first biopolymers (1) onto the second biopolymers (2).

2. (Amended) A method as claimed in claim 1, where [in step b),] a direct-voltage signal is measured.

3. (Amended) A method as claimed in claim 2, where the [measurement] measuring is [carried out as] a cyclovoltammetric measuring [measurement].

4. (Amended) A method as claimed in claim 1, [2 or 3, where, for the detection and quantification of the first biopolymer (1),] further comprising plotting the measured current or the measured voltage [is plotted] against time and integrating [integrated over] at least one peak.

7. (Amended) A method as claimed in claim 1, [where the] further comprising measuring impedance[is measured] by measuring [the] voltammetric signals at varying frequency.

Applicant : Wolf Bertling et al
Serial No. :
Filed :
Page : 6

Attorney's Docket No. 0848-021US1 / 422073GA-go

8. (Amended) A method as claimed in claim 1, [one of the preceding claims, where, before step a),] further comprising increasing the concentration of the first biopolymers (1) [are increased in concentration] at the surface of the first electrode (E1) by application of a voltage and/or current prior to contacting the liquid with the first electrode (E1).

9. (Amended) A method as claimed in claim 8, where [the] polarity is reversed cyclically.

10. (Amended) A method as claimed in claim 8 [or 9], where the measuring is performed in [first electrode (E1) with the first biomolecules (1) increased in concentration at it is removed from the liquid and, for the measurement, brought into contact with] a defined measurement solution.

11. (Amended) A method as claimed in claim 1 [one of the preceding claims], where a first end of the second biopolymer (2) is bonded [by means of one end] to the surface of the first electrode (E1) via a covalent bond or via a linker.

12. (Amended) A method as claimed in claim 11, where the first electrode (E1) is made of [one of the following materials:] plastic, ceramic, glass or metal.

13. (Amended) A method as claimed in claim 1 [one of the preceding claims], where the first biopolymer (1) is a single-stranded DNA or RNA which is complementary to the second biopolymer (2).

Claim 14 has been canceled.

In the Abstract:

The Abstract on the attached page has been added to the application.